

## **AMENDMENTS TO THE CLAIMS**

The following listing of claims will replace all prior versions and listings of claims in the application.

### **LISTING OF CLAIMS**

1. (previously presented) An apparatus for processing trading orders, said apparatus comprising a central server connected to a plurality of terminals on which user orders are to be entered, wherein said central server comprises:

communication means for receiving user orders from said terminals via a network;

first storage means for storing received user orders as an array whose elements define a particular first resource ordered by a particular user;

second storage means for storing an array of coefficients, where each coefficient of the array represents the proportion of a particular order that is to be satisfied; and

processing means for retrieving said orders from said first storage means, calculating an optimized set of values of said coefficients with respect to at least one predetermined constraint and at least one predetermined criterion, and storing said optimized coefficient values in said second storage means,

said communication means also being for transmitting the processed orders and their respective coefficients.

2. (original) An apparatus according to claim 1, wherein said at least one constraint includes that the value of each of said coefficients is less than or equal to 1 and greater than or equal 0.

3. (previously presented) An apparatus according to claim 1, wherein, said processing means is adapted to process orders such that a designated user takes the opposite position to each other user order by agreeing to exchange a proportion of the ordered first resource for a second resource, where said proportion corresponds to the optimized coefficient for that order.

4. (previously presented) An apparatus according to claim 3, wherein said at least one constraint includes that when all orders were to be completed, in proportion to their respective coefficients, the designated user's holdings arising from the processed orders would be only non-negative amounts of each resource, including after maturation of all simple derivatives and options to trade resources in the future.

5. (previously presented) An apparatus according to claim 3, wherein said at least one criterion includes maximizing the revenue of said designated user, in terms of a particular simple resource, based on an exchange rate.

6 (previously presented) An apparatus according to claim 1, wherein said central server further comprises third storage means for storing an array of data representing a current exchange rate between each resource and at least one other resource, and wherein said processing means is further for retrieving exchange rate data from said third storage means.

7. (previously presented) An apparatus according to claim 1, wherein said at least one criterion includes maximizing the volume given by the sum of the absolute values of the components of all orders that are satisfied, partially or in full, in terms of a particular simple resource at a given exchange rate.

8. (previously presented) An apparatus according to claim 1, wherein said processing means is adapted to optimize the values of said coefficients by successively applying respective criteria in a cascaded manner.

9. (previously presented) An apparatus according to claim 8, further comprising means to specify the sequence of said cascaded criteria.

10. (previously presented) An apparatus according to claim 1, said processing means applies, in sequence, each one of a plurality of predefined linear programming routines, or convex programming routines, or standard combinatorial optimization techniques, to optimize said coefficients until one of the following events occurs:

a specified maximum period of time elapses;

an optimal solution is found.

11. (previously presented) An apparatus according to claim 10, wherein a consistent sub-optimal solution is used to obtain the optimized set of coefficient values when a specified maximum period of time elapses before an optimal solution is found.

12. (previously presented) An apparatus according to claim 1, wherein said processing means is adapted to optimize said coefficients for batches of received orders.

13. (original) An apparatus according to claim 12, wherein said processing means is adapted to determine the end of a batch by a preset interval of time having elapsed since the start of that batch.

14. (original) An apparatus according to claim 12, wherein said processing means is adapted to determine the end of a batch by the total order value exceeding a threshold value.

15. (previously presented) An apparatus according to claim 12, adapted to carry forward orders not satisfied, completely or partially, in one batch to the next batch.

16. (previously presented) An apparatus according to claim 12, adapted to remove from said first storage means orders not satisfied, completely or partially, after a preset length of time from submission of those orders.

17. (original) An apparatus according to claim 16, wherein said preset length of time for each order is specified by the relevant user.

18. (previously presented) An apparatus according to claim 1, wherein unsatisfied orders are removed from said first storage means at the request of a user.

19. (previously presented) An apparatus according to claim 1, wherein at least one user order stored in said first storage means specifies a particular second resource offered in exchange for said first resource to define a resource flow.

20. (previously presented) An apparatus according to claim 1, wherein at least one user order stored in said first storage means orders said first resource at a prevailing market exchange rate.

21. (previously presented) An apparatus according to claim 1, wherein a resource in at least one order is a compound resource.

22. (previously presented) An apparatus according to claim 1, wherein at least one of said terminals is connected to said central server via a sub-server which aggregates orders from users.

23. (previously presented) An apparatus according to claim 1, wherein said communication means is adapted to transmit orders using TCP/IP.

24. (previously presented) An apparatus according to claim 6, wherein said processing means computes and updates the exchange rates in said third storage means based on the satisfied order flow.

25. (previously presented) An apparatus according to claim 1, wherein instruments being traded are financial, such as currencies, securities, and futures on the value of commodities.

26. (previously presented) An apparatus according to claim 1, wherein said communication means transmits said processed orders and their coefficients to a further apparatus for settlement of said orders.

27. (previously presented) A computer terminal comprising: communication means for receiving the processed orders and their respective coefficients from an apparatus according to claim 1; and

a device for triggering transfer of resources in accordance with the filled part of each order specified by the respective coefficient.

28. – 58. cancelled

59. (currently amended) The apparatus of claim 1 wherein the array of coefficients having one dimension that correlates to the number of orders received from the terminals and ~~may~~ accommodate more than two orders.